REMARKS

The above Amendments and these Remarks are in reply to the Office Action mailed August 3, 2005. Claims 1-48 were pending in the Application prior to the outstanding Office Action. A minor amendment is being made to claim 35. No claims are being canceled or added. Accordingly, claims 1-48 remain for the Examiner's consideration. Reconsideration and withdrawal of the outstanding rejections are respectfully requested.

I. Premature Final Rejection

Applicant respectfully asserts that the Office Action mailed August 3, 2005, which is the second Office Action issued for this case, should not have been a Final Office Action. According to MPEP 706.07(a) a second or subsequent action on the merits should not be final where the Examiner is introducing a new ground of rejection that is neither necessitated by Applicant's amendment of the claims nor based on information submitted in an Information Disclosure Statement (IDS). MPEP 706.07(a) also states that a second or subsequent action on the merits will not be made final if it includes a rejection, on newly cited art, other than information submitted in an IDS, "of any claim not amended by applicant or patent owner in spite of the fact that other claims may have been amended to require newly cited art."

In the first Office Action, the Examiner had indicated that dependent claims 16, 30 and 34 would be allowable if rewritten in independent form including all the limitations of their base claim. In Reply to the first Office Action, Applicant amended claims 16, 30 and 34 to put them in independent form. In the second Office Action, the Examiner rejected claims 16, 30 and 34 using newly applied U.S. Patent No. 6,816,013 to Kao (hereafter "Koa"), which was not cited by Applicant in an IDS. Accordingly, claims 16, 30 and 34 were rejected based on a new ground of rejection. This new ground of rejection was not necessitated by Applicant's amendment, because Applicant had merely amended claims 16, 30 and 34 to put them in a format that the Examiner had previously indicated was allowable. Additionally, the new ground of rejection was not necessitated by information submitted by Applicant in an IDS, because, as mentioned above, Koa was not cited in an IDS.

Based on the above reasons, Applicant respectfully requests that the finality of the second Office Action (mailed August 3, 2005) be withdrawn. Accordingly, if another Office Action is to be issued, it should not be an Advisory Action.

II. Summary of Prior Art Rejections

Claims 1-2, 11-12, 17-20, 29-30, 35 and 36 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over U.S. Patent No. 5,585,975 to Bliss (hereafter referred to as "Bliss") and U.S. Patent No. 6,108,153 to Glover (hereafter referred to as "Glover") and further in view of U.S. Patent No. 6,816,013 to Kao (hereafter referred to as "Koa"). Claims 13-16 and 31-34 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Bliss in view of Koa. Claims 3-5 and 21-23 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Bliss, Glover, Kao, and further in view of U.S. Patent No. 6,487,032 to Cloke et al. (hereafter referred to as "Cloke"). Applicant respectfully disagrees with the above rejections, for at least the reasons explained below.

III. Interview Summary

Applicant thanks the Examiner for the telephonic interview provided to Applicant's undersigned representative on August 11, 2005. During the Interview, Applicant's representative explained the invention of **claim 1**, and explained why Bliss and Koa, alone or in combination, do not teach the invention of **claim 1**.

Applicant's representative explained that Bliss and Koa, alone or in combination, do not teach "a programmable limiter to keep the servo AGC signal within a desired range, before the servo AGC signal is used for feedback control", as required by step (c) of **claim 1**. Applicant's representative also explained that Bliss and Koa, alone or in combination, do not teach that "the desired range includes at least one of an upper limit value and a lower limit value", as also required by **claim 1**.

With regards to Bliss, Applicant's representative explained that signal 21 in FIG. 3 of Bliss is analogous to the claimed "AGC signal" that is provided as an input to a VGA (element 22 in Bliss) for feedback control, and that Bliss does not teach or suggest a programmable limiter to keep signal 21 within a desired range.

In the Office Action, it was admitted that Bliss does not teach that "the desired range includes at least one of an upper limit value and a lower limit value." However, it was alleged in the Office Action that the FIG. 1 and column 1, lines 15-16 of Koa taught this deficiency of Bliss. This portion of Koa discusses a top detector 12 and a bottom detector 13, which it appears the Examiner was using to teach an upper limit and a lower limit, respectively. However, during the interview, Applicant's representative explained that the top and bottom detectors of Koa are merely used to detect top and bottom voltages Vt and Vb, respectively, so that a peak-to-peak amplitude Vd can be determined (see Koa, column 1, lines 20-25).

At the conclusion of the Interview, the Examiner stated that rejection of **claim 1** appears to have been overcome. Accordingly, Applicant respectfully requests withdrawal of the rejection of **claim 1** based on Bliss and Koa. The Examiner stated that she would perform a further search to determine if additional references exist that can be used to reject **claim 1.**

Applicant notes that in the below discussion of **claim 12**, Applicant explains in more detail why the applied references do not teach or suggest "a programmable limiter to keep the servo AGC signal within a desired range, before the servo AGC signal is used for feedback control", which is required by **claims 1 and 12**, as well as by some of the other claims.

IV. Discussion of Remaining Claims

Claims 2-5 and 11

Claims 2-5 and 11 depend from and add additional patentable features to claim 1. Applicant asserts that the rejections of claim 2-5 and 11 have been overcome for at least the reasons discussed above with regards to claim 1. Applicant also believes that claims 2-5 and 11 are patentable for the features that they add.

Claim 12

Claim 12 requires: "a summer to produce an error signal representing a difference between the measured amplitude and a target amplitude"; "a filter to filter the error signal and produce a servo automatic gain control (AGC) signal therefrom"; "a programmable

limiter to keep the servo AGC signal within a desired range, before the servo AGC signal is used for feedback control"; and that "the programmable limiter is external to the filter".

Referring to FIGS. 3 and 5 of Bliss, it appears that the claimed "summer to produce an error signal" is taught by the Gain Error Detector B102 of Bliss (shown in FIG. 5), which is part of the Gain and Timing Control 28 (shown in FIG. 3). It also appears that the claimed "filter to filter the error signal to produce a servo automatic gain control signal therefrom" is taught by the filter B106 shown in FIG. 5, with signal 21 shown in FIGS. 3 and 5 of Bliss being the servo automatic gain control (AGC) signal that is used for feedback control. However, it is clear from FIGS. 3 and 5 that Bliss does not teach or suggest "a programmable limiter to keep the servo AGC signal within a desired range, before the servo AGC signal is used for feedback control", as required by claim 12. It was alleged in the Office Action that column 9, lines 17-21 of Bliss teaches this feature. However, this portion of Bliss merely explains that the Discrete Equalizer Filter 26 in FIG. 3 of Bliss (which is similar to the FIR Filter 518 in FIG. 14 of the present application) is programmable to permit pulse shaping of the waveforms represented by discrete time samples. This has nothing to do with keeping "the servo AGC signal within a desired range, before the servo AGC signal is used for feedback control", as required by claim 12.

Referring to FIG. 2 of Glover, it appears that the Error Circuit 50 and the AGC 44 collectively teach "a summer to produce an error signal representing a difference between the measured amplitude and a target amplitude" and "a filter to filter the error signal and produce a servo automatic gain control (AGC) signal therefrom", with the output of the AGC 44 being the "servo automatic gain control (AGC) signal". However, it is clear from FIG. 2 that Glover does not teach "a programmable limiter to keep the servo AGC signal within a desired range, before the servo AGC signal is used for feedback control", as required by claim 12.

It is admitted that Bliss and Glover do not teach the "the programmable limiter is external to the filter". However, it is alleged that FIG. 1 and column 1, lines 15-16 of Koa teach this feature. As explained above, this portion of Koa merely teaches a top detector 12 and a bottom detector 13 that are used to detect top and bottom voltages Vt and Vb, respectively, so that a peak-to-peak amplitude Vd can be determined (see Koa, column 1, lines 20-25). Accordingly, this portion of Koa has nothing to do with a

programmable limiter. Thus, this portion of Koa certainly does not teach that the claimed programmable limiter is external to the filter that is used to filter the error signal and produce a servo automatic gain control (AGC) signal therefrom, as required by claim 12.

For at least the reasons discussed above, Applicant respectfully requests that the 103(a) rejection of claim 12 be reconsidered and withdrawn.

Claims 13-15

Applicant believes that the rejection of independent claim 13 should be withdrawn for similar reasons to those discussed above with regards to claim 1. Claims 14-15 depend from and add additional patentable features to claim 13. Applicant believes that claims 14-15 are patentable for at least the reasons discussed above with regards to claim 13, and for the features that they add.

Claim 16

Applicant believes that the rejection of independent claim 16 should be withdrawn for similar reasons to those discussed above with regards to claim 12.

Claims 17 and 18

Applicant believes that the rejection of independent claim 17 should be withdrawn for similar reasons to those discussed above with regards to claim 1. Claim 18 depends from and adds additional patentable features to claim 17. Applicant believes that claim 18 is patentable for at least the reasons discussed above with regards to claim 17, and for the features that it adds.

Claim 19

According to the Office Action, independent claim 19 was rejected for similar reasons to claim 1. Claim 19 requires: "a summer to produce an error signal representing a difference between the measured phase and a target phase"; "a filter to filter the error signal and produce a servo phase lock loop (PLL) signal therefrom"; and "a programmable limiter to keep the servo PLL signal within a desired range, before the servo PLL signal is used to adjust a frequency of an oscillator"; and that "the desired range includes at least one of an upper limit value and a lower limit value".

Referring to FIGS. 3 and 5 of Bliss, it appears that the claimed "summer to produce an error signal" is taught by the Phase Error Detector B100 of Bliss (shown in FIG. 5), which is part of the Gain and Timing Control 28 (shown in FIG. 3). It also appears that the claimed "filter to filter the error signal and produce a servo phase lock loop (PLL) signal therefrom" is taught by the filter B104 shown in FIG. 5, with signal 23 shown in FIGS. 3 and 5 being the servo phase lock loop (PLL) signal. However, it is clear from FIGS. 3 and 5 that Bliss does not teach or suggest "a programmable limiter to keep the servo PLL signal within a desired range, before the servo PLL signal is used to adjust a frequency of an oscillator", as required by claim 19.

Referring to FIG. 2 of Glover, it appears that the Error Circuit 50 and the PLL 52 collectively teach "a summer to produce an error signal representing a difference between the measured phase and a target phase" and "a filter to filter the error signal and produce a servo phase lock loop (PLL) signal therefrom". However, it is clear from FIG. 2 that Glover does not teach "a programmable limiter to keep the servo PLL signal within a desired range, before the servo PLL signal is used to adjust a frequency of an oscillator", as required by claim 19. As explained at column 8, lines 24-36, the MUX 56 shown in FIG. 2 of Glover merely selects between the output of PLL 52 and a clock signal, and thus, does not act as a programmable limiter as claimed.

In the Office Action, it was admitted that Bliss and Glover do not teach that "the desired range includes at least one of an upper limit value and a lower limit value", as required by claim 19. However, it was alleged in the Office Action that FIG. 1 and column 1, lines 15-16 of Koa taught this deficiency of Bliss and Glover. As explained above in the discussion of claim 1, Koa does not teach or suggest this feature.

For at least the reasons discussed above, Applicant respectfully requests that the 103(a) rejection of claim 19 be reconsidered and withdrawn.

Claims 20-23 and 25-29

Claims 20-23 and 25-29 depend from and add additional patentable features to claim 19. Applicant believes that claims 20-23 and 25-29 are patentable for at least the reasons discussed above with regards to claim 19, and for the features that they add.

Claim 30

Applicant believes that the rejection of claim 30 should be withdrawn for similar reasons to those discussed above with regards to claims 12 and 19.

Claim 31

Applicant believes that the rejection of claim 31 should be withdrawn for similar reasons to those discussed above with regards to claims 1 and 19.

Claim 32-33

Claims 32-33 depend from and add additional patentable features to claim 31. Applicant believes that claims 32-33 are patentable for at least the reasons discussed above with regards to claim 31, and for the features that they add.

Claim 34

Applicant believes that the rejection of claim 34 should be withdrawn for similar reasons to those discussed above with regards to claims 12 and 19.

Claims 35 and 36

Applicant believes that the rejection of claim 35 should be withdrawn for similar reasons to those discussed above with regards to claims 1 and 19. Claim 36 depends from and adds additional patentable features to claim 35. Applicant believes that claim 36 is patentable for at least the reasons discussed above with regards to claim 35, and for the features that it adds.

V. Allowable Subject Matter

Applicant thanks the Examiner for indicating the claims 24 and 37-48 are allowed.

Applicant also thanks the Examiner for indicating that claims 6-10 and 25-28 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. However, as explained above, Applicant believes that the base claims from which these claims depend are patentable, and thus, that these claims need not be rewritten as suggested.

VI. Conclusion

In light of the above, it is respectfully requested that all outstanding rejections be reconsidered and withdrawn. The Examiner is respectfully requested to telephone the undersigned if he can assist in any way in expediting issuance of a patent.

The Commissioner is authorized to charge any underpayment or credit any overpayment to Deposit Account No. 06-1325 for any matter in connection with this reply, including any fee for extension of time, which may be required.

Respectfully submitted,

Date: August 12, 2005 By: Jeffrey R. Kurin

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